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In the Claims:

Please amend the claims as follows:

1-138 (cancelled)

139. (New) A fiber optic flow sensor adapted to be disposed in a wellbore, comprising:
   - a fiber optic line carrying an optical signal;
   - a spinner adapted to spin when in contact with fluids flowing through the wellbore; and
   - a modulator functionally connected to the spinner, the modulator modulating the optical signal depending on the spinning of the spinner.

140. (New) The sensor of claim 139, wherein the modulator is located on the spinner and the spinner and modulator are constructed so that the modulator becomes aligned with the fiber optic line once every revolution of the spinner.

141. (New) The system of claim 140, wherein a pulse is reflected through the fiber optic line each time the modulator becomes aligned with the fiber optic line; and an acquisition unit receives the reflected pulse and determines the velocity of the wellbore fluids based on the frequency of reception of the reflected pulses.

142. (New) The sensor of claim 140, wherein the spinner includes a blade coupled to a disc.

143. (New) The sensor of claim 142, wherein the blade is located external to the housing and the disc is located internal to the housing.

144. (New) The sensor of claim 143, wherein the housing is sealed.

145. (New) The sensor of claim 142, wherein the blade and the disc are magnetically coupled across the housing.

146. (New) The sensor of claim 142, wherein the modulator is located on the disc.

147. (New) The sensor of claim 146, wherein the modulator is located at a side of the disc.

148. (New) The sensor of claim 139, wherein the optical signal is modulated by imparting a strain on the fiber optic line.

149. (New) The sensor of claim 148, wherein the modulator comprises a fiber-bragg grating incorporated on the fiber optic line.

150. (New) The sensor of claim 148, further comprising:

- a permanent magnet coupled to the spinner;
- a coil attached to a housing; and
- wherein the permanent magnet and the coil become magnetically connected as the spinner revolves.

151. (New) The sensor of claim 150, wherein the magnetic connection generates a voltage that causes a piezoelectric material mechanically coupled to the fiber optic line to constrict and strain the fiber optic line.

152. (New) A method to calculate the flow of fluid within a wellbore, comprising:

- providing a spinner adapted to spin when in contact with fluids flowing through the wellbore;
- and modulating an optical signal transmitted through a fiber optic line depending on the spinning of the spinner wherein said modulation step comprises aligning a modulator with the fiber optic line once every revolution of the spinner.

153. (New) The method of claim 152, further comprising determining the velocity of the wellbore fluids based on the frequency of modulations.

154. (New) A method to calculate the flow of fluid within a wellbore, comprising:

- providing a spinner adapted to spin when in contact with fluids flowing through the wellbore;
- and modulating an optical signal transmitted through a fiber optic line depending on the spinning of the spinner wherein said modulation step comprises imparting a strain on the fiber optic line.

155. (New) The method of claim 154, wherein the imparting step comprises:

- creating a magnetic connection related to the revolution of the spinner; and
- generating a voltage that causes a piezoelectric material mechanically coupled to the fiber optic line to constrict and strain the fiber optic line.

156. (New) A casing collar locator adapted to detect casing collars disposed in a wellbore, comprising:

- a fiber optic line carrying an optical signal;
- a magnetic device adapted to become magnetically connected to a casing collar as the magnetic device passes the casing collar;
- a modulator that is functionally connected to the magnetic device;wherein the optical signal is modulated by the modulator when the magnetic device passes the casing collar.

157. (New) The casing collar locator of claim 156, wherein the modulator is an optical interferometer.

158. (New) The casing collar locator of claim 156, wherein the magnetic device brings the modulator into alignment with the fiber optic line when the magnetic device passes a casing collar and the optical signal is modulated when the modulator is in alignment with the fiber optic line.

159. (New) The casing collar locator of claim 158, wherein:

- a pulse is reflected through the fiber optic line each time the modulator becomes aligned with the fiber optic line; and

- an acquisition unit receives the reflected pulse and thereby identifies the detection of the casing collar.

160. (New) The casing collar locator of claim 156, wherein the optical signal is modulated by imparting a strain on the fiber optic line.

161. (New) The casing collar locator of claim 160, wherein the modulator comprises a fiber-bragg grating incorporated on the fiber optic line.

162. (New) The casing collar locator of claim 160, wherein the magnetic device comprises a permanent magnet and a coil.

163. (New) The casing collar locator of claim 160, wherein the magnetic connection generates a voltage that causes a piezoelectric material mechanically coupled to the fiber optic line to constrict and strain the fiber optic line.

164. (New) The casing collar locator of claim 156, wherein the modulator moves in relation to the fiber optic line to cause the modulation of the optical signal.

165. (New) The casing collar locator of claim 164, wherein the magnetic device comprises a permanent magnet and a moving magnet and the moving magnet moves in relation to the permanent magnet when the magnetic device passes the casing collar.

166. (New) The casing collar locator of claim 165, wherein movement of the moving magnet causes the movement of the modulator in relation to the fiber optic line.

167. (New) The casing collar locator of claim 166, wherein the moving magnet is biased to a stationary position by a spring.

168. (New) The casing collar locator of claim 166, wherein the modulator comprises a component having alternately placed black and white lines.

169. (New) A method for identifying the location of casing collars disposed in a wellbore, comprising: providing a magnetic device adapted to become magnetically connected to a casing collar as the magnetic device passes the casing collar; and modulating an optical

signal transmitted through a fiber optic line when the magnetic device passes the casing collar.

170. (New) The method of claim 169, wherein the modulating step comprises aligning a modulator with the fiber optic line when the magnetic device passes the casing collar.

171. (New) The method of claim 169, wherein the modulating step comprises imparting a strain on the fiber optic line.

172. (New) The method of claim 171, wherein the imparting step

- creating a magnetic connection between the magnetic device and the casing collar when the magnetic device passes the casing collar; and
- generating a voltage that causes a piezoelectric material mechanically coupled to the fiber optic line to constrict and strain the fiber optic line.

173. (New) The method of claim 169, wherein the modulating step comprises comprises moving a modulator in relation to the fiber optic line.

174. (New) The method of claim 173, wherein the moving step comprises moving a moving magnet in relation to a permanent magnet when the magnetic device passes the casing collar.

175. (New) The method of claim 174, further comprising biasing the moving magnet to stationary position by use of spring.